In the Specification, please revise as follows:

Page 1, last paragraph and continuing on page 2:

This disk cartridge 1 includes a cartridge housing 2 comprised of a pair of an upper shell 2a and a lower shell 2b, a magnetooptical disk 4 rotatably stored within a disk compartment 3 of this cartridge housing, and the like. The cartridge housing 2 has on its upper and lower surfaces ~~defined~~ an upper and lower opening portion 5 which is extended from the central portion to one side. This opening portion 5 can be opened and closed by a shutter member 6 which can be slid along one side. Reference numeral 6a designates a presser member which can prevent the tip end portion of the shutter member 6 from being extracted.

Page 2, last paragraph and continuing on page 3:

However, in the conventional disk cartridge having the above arrangement, the shutter member 6 which opens and closes the opening portion 5 has a U-like shaped cross-section. This shutter member 6 is fitted into one side of the cartridge housing 2 and the shutter member 6 is slid along one side of the cartridge housing to thereby open and close the opening portion 5. For this reason, it is unavoidable that a large space is produced between the cartridge housing 2 and the shutter member 6, and therefore the disk cartridge cannot be prevented from being smudged by very small dusts particles and the like.

In recent years, in the stream in which an optical disk is increasing its storage capacity/increasing its recording density, a recording pattern is becoming narrower in pitch and is increasing ~~a~~ in linear density. When a recording surface of an optical disk or a magnetooptical disk is smudged by dusts, the read or write beam is shielded, ~~or~~, also when the information recording surface of the optical disk is damaged by scratches, information cannot be read or written normally. For this reason, in the conventional disk cartridge, as shown in FIG. 27, the shutter member 6 having substantially the U-like shaped cross-section is attached to one side of the cartridge housing 2 so as to become slidable and is slid along one side of the cartridge housing thereby to open and close the opening portion 5 so that the information recording surface of the optical disk or the like can be protected.

However, as the optical disk is further ~~increasing a~~ increased in storage capacity~~increasing a~~ or recording density, very small dusts particles which are not so influential in the prior art becomes more influential over reading and writing of data. Therefore, the shutter member having the above U-like shape cannot prevent the disk cartridge from being smudged by very small dusts particles. In this case, when the information recording surface of the magnetooptical disk 4 is smudged by very small dusts particles entereding into the cartridge housing 2, the information recording surface of the magnetooptical disk is damaged by dusts so that information cannot be read out from and written in the magnetooptical disk normally.

Page 4 last paragraph, through page 15, please amend as follows :

In order to solve the above problems and in order to attain the above objects, a disk cartridge ~~according to claim 1~~ of the present invention is comprised of a cartridge housing in which a disk compartment is formed between an upper shell and a middle shell or between the middle shell and a lower shell by overlapping the upper shell, the middle shell and the lower shell and in which the middle shell can be supported by the upper shell and the lower shell so as to become freely rotatable, a disk-like recording medium rotatably stored within the disk compartment and a pair of shutter members attached to the middle shell in such a manner that they can be moved in the flat surface direction on the same plane, wherein a shutter opening and closing mechanism for opening and closing an opening portion by moving the pair of shutter members based on the rotation of the middle shell is provided.

A disk cartridge according to ~~claim 2 of~~ the present invention is characterized in that the pair of shutter members are comprised of a combination of two substantially semicircular same plate materials and the shutter members are symmetrically disposed on one surface side of the middle shell across the opening portion.

A disk cartridge according to ~~claim 3 of~~ the present invention is characterized in that the shutter opening and closing mechanism includes rotary coupling portions respectively provided on one side portions of the pair of shutter members and which are coupled to the middle shell so as to become freely rotatable and movement coupling portions respectively provided on the other side portions of the respective shutter members and which are coupled to the lower shell or the

upper shell so as to become movable relatively, and the shutter opening and closing mechanism opens and closes the opening portion by rotating the pair of shutter members around the rotary coupling members based on the rotation of the middle shell to thereby relatively move the movement coupling portions.

A disk cartridge according to ~~claim 4 of~~ the present invention is characterized in that the rotary coupling portion is comprised of a combination of a shaft portion provided on one of the pair of shutter members and the middle shell and an engagement hole provided on the other of the pair of shutter members and the middle shell, the movement coupling portion is comprised of a combination of a guide groove provided on one of the pair of shutter members and the lower shell or the upper shell and an operation convex portion provided on the other of the pair of shutter members and the lower shell or the upper shell, and the pair of shutter members are enabled to open and close by moving the guide groove along the operation convex portion based on the rotation of the middle shell.

A disk cartridge according to ~~claim 5 of~~ the present invention is characterized in that the opening portion is extended in the linear direction through respective central portions of the middle shell and the lower shell or the middle shell and the upper shell.

A disk cartridge according ~~to claim 6 of~~ the present invention is characterized in that an elevation mechanism for moving the middle shell in the direction perpendicular to the rotation direction based on the rotation of the middle shell so that the middle shell is pressed against the lower shell or the upper shell is provided.

A disk cartridge ~~as claimed in claim 7~~ of the present invention is characterized in that the shutter opening and closing mechanism includes a pair of guide grooves provided on one of the pair of shutter members and the cartridge housing and a pair of operation convex portions provided on the other of the pair of shutter members and the cartridge housing and which are slidably engaged with the guide grooves and the pair of shutter members are enabled to open and close the opening portion by moving the guide grooves along the operation convex portions based on the rotation of the middle shell.

A disk cartridge ~~as claimed in claim 8~~ of the present invention is characterized in that the pair of shutter members are comprised of a combination of a pair of substantially semicircular same plate materials, the pair of shutter members are symmetrically disposed on one surface side

of the middle shell across the opening portion, the guide grooves are provided on one side portions of chord sides of the respective shutter members and pivots provided on the other side portions of the chord sides are supported by the middle shell so as to become freely rotatable.

A disk ~~cartridge as claimed in claim 9 of~~ the present invention is characterized in that the elevation mechanism is comprised of a plurality of circular-arc-like cam grooves or cam convex portions provided in the circumferential direction of the upper shell or the lower shell at a predetermined interval and which are concaved or convexed in the direction in which the upper shell, the middle shell and the lower shell are overlapped and cam convex portions or cam grooves provided in the circumferential direction of the middle shell at a predetermined interval and which are slidably engaged with the cam grooves or the cam convex portions.

A disk cartridge according to ~~claim 10 of~~ the present invention is characterized by comprising a gear portion provided on the outer peripheral surface of the middle shell over a predetermined range of the circumferential direction and an opening window from which a part of the gear portion is exposed and which is bored through the side surface of the upper shell and the lower shell.

A disk cartridge according to ~~claim 11 of~~ the present invention is characterized in that the pair of shutter members are comprised of a combination of a pair of substantially semicircular same plate materials, the pair of shutter members are symmetrically disposed on one surface of the middle shell across the opening portion, the guide groove is provided on one side portion of a chord side in each of the shutter members and a shaft portion provided on the other side portion of the chord side is rotatably supported by the middle shell.

A disk cartridge according to ~~claim 12 of~~ the present invention is characterized in that a pair of guide grooves are provided on one of the pair of shutter members and the cartridge housing, a pair of operation convex portions which are slidably engaged with the guide grooves are provided on the other of the pair of shutter members and the cartridge housing, the guide grooves are moved along the operation convex portions based on the rotation of the middle shell, whereby the pair of shutter members are enabled to open and close said open and close portion.

A disk cartridge according to ~~claim 13 of~~ the present invention is characterized in that the opening portion is extended in the linear direction through central portions of the middle shell and the lower shell or the middle shell and the upper shell.

With the above arrangement, in the disk cartridge comprising the cartridge housing having the disk compartment, the disk-like recording medium and the pair of shutter members, since the disk cartridge ~~as claimed in claim 1~~ of the present invention includes the shutter opening and closing mechanism for moving the pair of shutter members based on the rotation of the middle shell, the pair of shutter members can smoothly and reliably be rotated by rotating the middle shell. Therefore, the disk compartment can be prevented from being smudged by very small dusts particles and the like by reducing the space between the pair of shutter members and the cartridge housing, and the dustproof property of the cartridge housing can be improved. Moreover, the disk cartridge can be reduced in thickness and improved in space factor so that the whole of the disk cartridge can be made compact and thin.

In the disk cartridge ~~as claimed in claim 2~~ of the present invention, since the pair of shutter members are comprised of a combination of two substantially semicircular same plate materials, the opening portion of the wide range can be opened and closed while the areas of the shutter members are being reduced. Thus, while an efficiency with which the opening portion is opened and closed is being increased, the whole of the disk cartridge can be made compact and thin.

In the disk cartridge ~~as claimed in claim 3~~ of the present invention, since the shutter opening and closing mechanism includes the rotary coupling portion and the movement coupling portion so that the pair of shutter members are opened and closed based on the rotation of the middle shell to thereby open and close the opening portion, the pair of shutter members can smoothly and reliably be rotated.

In the disk cartridge ~~as claimed in claim 4~~ of the present invention, since the rotary coupling portion is comprised of a combination of a shaft portion and an engagement hole and the movement coupling portion is comprised of a combination of a guide groove and an operation convex portion, the pair of shutter members can be operated with high reliability and the opening portion can smoothly and reliably be opened and closed.

In the disk cartridge ~~as claimed in claim 5~~ of the present invention, since the opening portion is extended in the diametrical direction through the central portions of the middle shell and the like, two head portions can simultaneously be faced into the opening portion, whereby two operations (e.g., writing and reading of information signal can be carried out simultaneously,

~~writing or reading of two places can be carried out simultaneously, etc.) can be carried out at the same time.~~

In the disk cartridge ~~as claimed in claim 6~~ of the present invention, comprising the cartridge housing having the disk compartment, the disk-like recording medium and the pair of shutter members, since the disk cartridge comprises the shutter opening and closing mechanism for opening and closing the opening portion by moving the pair of shutter members based on the rotation of the middle shell and the elevation mechanism for moving the middle shell in the direction perpendicular to the rotation direction based on the rotation of the middle shell, the pair of shutter members can smoothly and reliably be rotated by rotating the middle shell and the middle shell can be ascended and descended and pressed against the upper shell or the lower shell when the middle shell is rotated. Therefore, the space can be removed or reduced by closely contacting the middle shell with the upper shell or the lower shell so that the disk compartment can be prevented from being smudged by very small dusts and the like, thereby improving the dustproof property of the cartridge housing. Moreover, the thickness of the cartridge housing can be decreased and the space factor can be improved and the whole of the disk cartridge can be made compact and thin.

In the disk cartridge ~~according to claim 7~~ of the present invention, since the pair of guide grooves are provided on one of the pair of shutter members and the cartridge housing and the pair of operation convex portions are provided on the other of the pair of guide grooves and the pair of operation convex portions and the guide grooves are moved along the operation convex portions based on the rotation of the middle shell, the pair of shutter members can smoothly and reliably be moved, whereby the opening portion of the wide range can be opened and closed.

In the disk cartridge ~~according to claim 8~~ of the present invention, since the pair of shutter members are comprised of the combination of two substantially semicircular same plate materials, the guide grooves are provided on one side portions of the respective shutter members, the pivots are provided on the other side portions and the pivots are supported by the middle shell so as to become freely rotatable, the opening portion of the wide range can be opened and closed while the areas of the shutter members are being reduced. Thus, an efficiency with which the opening portion is opened and closed can be increased, and the whole of the disk cartridge can be made compact and thin.

In the disk cartridge ~~according to claim 9~~ of the present invention, since the cam grooves or the cam convex portions are provided on the upper shell or the lower shell and the cam convex portions or the cam grooves are provided on the middle shell to thereby constitute the elevation mechanism, the pair of shutter members can be sandwiched by the upper shell or the lower shell and the middle shell as the middle shell is rotated, the space can be removed by closely contacting the middle shell with the upper shell or the lower shell so that the disk compartment can be prevented from being smudged by very small ~~dusts~~ particles and the like. Thus, the dustproof property of the cartridge housing can be improved.

In the disk cartridge including the cartridge housing having the disk compartment, the disk-like recording medium and the pair of shutter members, according to ~~the disk cartridge as claimed in claim 10 of~~ the present invention, since the gear portion formed around the outer peripheral surface of the middle shell is exposed from the opening window provided on the side surface of the upper shell and the lower shell, the middle shell can be rotated by the simple shutter opening and closing mechanism such as the rack rod disposed on the outside, and the pair of shutter members can smoothly and reliably be rotated based on the rotation of the middle shell. Therefore, the shutter opening and closing mechanism can be constructed extremely easily. In addition, the disk compartment can be prevented from being smudged by very small ~~dusts~~ particles and the like by miniaturizing the space between the pair of shutter members and the cartridge housing. Thus, the dustproof effect of the cartridge housing can be improved and the disk cartridge can be decreased in thickness and improved in space factor. There can be achieved the effects that the whole of the disk cartridge can be made compact and thin.

According to the disk cartridge ~~as claimed in claim 11~~ of the present invention, since the disk cartridge has the arrangement in which the pair of shutter members are comprised of a combination of the same two substantially semicircular plate materials, the respective shutter members are symmetrically disposed across the opening portion, the guide grooves are provided on one side portions of the chord sides of the respective shutter members and the shaft portions provided on the other side portions are rotatably supported to the middle shell, the opening portion of the wide range can be opened and closed while the areas of the shutter members are being decreased. Thus, an efficiency with which the opening portion is opened and closed can be improved and the whole of the disk cartridge can be made compact and thin.

According to the disk cartridge ~~as claimed in claim 12~~ of the present invention, since the disk cartridge has the arrangement in which the pair of guide grooves are provided on one of the pair of shutter members and the cartridge housing and the pair of operation convex portions are provided on the other of the pair of shutter members and the cartridge housing so that the guide grooves may be moved along the operation convex portions based on the rotation of the middle shell, the pair of shutter members are opened and closed by the rotation of the middle shell to thereby open and close the opening portion, and hence the pair of shutter members can be rotated smoothly and reliably.

According to the disk cartridge ~~as claimed in claim 13~~ of the present invention, since the disk cartridge has the arrangement in which the opening portion is extended through the central portion of the cartridge housing to the diametrical direction of the disk-like recording medium, the two head portions can be inserted into and ejected from the opening portion simultaneously so that the two head portions are faced into the opening portion simultaneously and two operations (e.g., writing and reading of an information signal, writing or reading of an information signal at two places at the same time, etc.) can be carried out simultaneously.

Page 49, first paragraph full paragraph through page 55, please amend as follows:

As set forth above, according to the disk ~~cartridge as claimed in claim 1~~ of the present invention, in the disk cartridge comprising the cartridge housing having the disk compartment, the disk-like recording medium and the pair of shutter members, since the disk cartridge includes the shutter opening and closing mechanism for moving the pair of shutter members based on the rotation of the middle shell to thereby open and close the opening portion, the middle shell is rotated and the pair of shutter members are rotated by the operation of the shutter opening and closing mechanism so that the opening portion from which a part of the disk-like medium is exposed is smoothly and reliably be opened and closed. Therefore, the disk compartment can be prevented from being smudged by very small dusts and the like by reducing the space between the pair of shutter members and the cartridge housing, and there is provided the cartridge housing with excellent dustproof property. Moreover, in the disk cartridge thus provided, the number of parts are reduced, the structure is simple, the productivity is superior, the thickness is thin, the size is compact, and the dust-proof property is excellent since the disk cartridge is constituted of three shells of the upper, lower, and middle, the pair of shutter members and the lock member.

According to the disk cartridge ~~as claimed in claim 2~~ of the present invention, since the pair of shutter members are comprised of a combination of two substantially semicircular same plate materials and the pair of shutter members are disposed symmetrically across the opening portion on the same plane , the opening portion of the wide range can be opened and closed while the areas of the shutter members are being reduced. Thus, while an efficiency with which the opening portion is opened and closed is being increased, the whole of the disk cartridge can be made compact and thin.

According to the disk cartridge ~~as claimed in claim 3~~ of the present invention, since the shutter opening and closing mechanism includes the rotary coupling portion and the movement coupling portion so that the pair of shutter members are opened and closed by the rotation of the middle shell to thereby open and close the opening portion, the pair of shutter members are rotated based on the rotation of the middle shell so that the opening portion can smoothly and reliably be opened and closed.

According to the disk cartridge ~~as claimed in claim 4~~ of the present invention, since the rotary coupling portion is comprised of a combination of a shaft portion and an engagement hole and the movement coupling portion is comprised of a combination of a guide groove and an operation convex portion, the pair of shutter members can be operated with high reliability and the opening portion can smoothly and reliably be opened and closed.

According to the disk cartridge ~~as claimed in claim 5~~ of the present invention, since the opening portion is shaped such that it extends in the diametrical direction through the central portions of the middle shell and the like, two head portions can simultaneously be faced into the opening portion, whereby two operations (e.g., writing and reading of information signal can be carried out, writing or reading of two places can be carried out simultaneously, etc.) can be carried out at the same time.

So, the very convenient disk cartridge which can execute plural functions at the same time is provided.

According to the disk cartridge ~~as claimed in claim 6~~ of the present invention, since the disk cartridge comprises the shutter opening and closing mechanism for opening and closing the opening portion by moving the pair of shutter members based on the rotation of the middle shell and the elevation mechanism for moving the middle shell in the direction perpendicular to the

rotation direction based on the rotation of the middle shell, the pair of shutter members can smoothly and reliably be rotated by rotating the middle shell and the middle shell can be ascended and descended and pressed against the upper shell or the lower shell when the middle shell is rotated. Therefore, the space can be removed or reduced by closely contacting the middle shell with the upper shell or the lower shell so that the disk compartment can be prevented from being smudged by very small dusts and the like, thereby improving the dustproof property of the cartridge housing. Moreover, the thickness of the cartridge housing can be decreased and the space factor can be improved and the whole of the disk cartridge can be made compact and thin as well as the dust-proof property is excellent.

According to the disk cartridge ~~as claimed in claim 7~~ of the present invention, since the pair of guide grooves are provided on one of the pair of shutter members and the cartridge housing and the pair of operation convex portions are provided on the other of the pair of guide grooves and the pair of operation convex portions and the guide grooves are moved along the operation convex portions based on the rotation of the middle shell, the pair of shutter members can smoothly and reliably be moved, whereby the opening portion of the wide range can be opened and closed.

According to the disk cartridge ~~as claimed in claim 8~~ of the present invention, since the pair of shutter members are comprised of the combination of two substantially semicircular same plate materials, the guide grooves are provided on one side portions of the respective shutter members, the pivots are provided on the other side portions and the pivots are supported by the middle shell so as to become freely rotatable, the opening portion of the wide range can be opened and closed while the areas of the shutter members are being reduced. Thus, an efficiency with which the opening portion is opened and closed can be increased, and the whole of the disk cartridge can be made compact and thin.

According to the disk cartridge ~~as claimed in claim 9~~ of the present invention, since the cam grooves or the cam convex portions are provided on the upper shell or the lower shell and the cam convex portions or the cam grooves are provided on the middle shell to thereby constitute the elevation mechanism, the pair of shutter members can be sandwiched by the upper shell or the lower shell and the middle shell as the middle shell is rotated, the space can be removed by closely contacting the middle shell with the upper shell or the lower shell so that the

disk compartment can be prevented from being smudged by very small dusts and the like. Thus, the dustproof property of the cartridge housing can be improved.

According to the disk cartridge ~~as claimed in claim 10~~ of the present invention, in the disk cartridge including the cartridge housing having the disk compartment, the disk-like recording medium and the pair of shutter members, since the gear portion formed around the outer peripheral surface of the middle shell is exposed from the opening window provided on the side surface of the upper shell and the lower shell, the middle shell can be rotated by the simple shutter opening and closing mechanism such as the rack rod disposed on the outside, and the pair of shutter members can smoothly and reliably be rotated based on the rotation of the middle shell. Therefore, the shutter opening and closing mechanism can be constructed extremely easily. In addition, the disk compartment can be prevented from being smudged by very small dusts and the like by miniaturizing the space between the pair of shutter members and the cartridge housing. Thus, the dustproof effect of the cartridge housing can be improved and the disk cartridge can be decreased in size and thickness and improved in space factor. There can be achieved the effects that the whole of the disk cartridge can be made compact and thin.

According to the disk cartridge ~~as claimed in claim 11~~ of the present invention, since the disk cartridge has the arrangement in which the pair of shutter members are comprised of a combination of the same two substantially semicircular plate materials, the respective shutter members are symmetrically disposed across the opening portion, the guide grooves are provided on one side portions of the chord sides of the respective shutter members and the shaft portions provided on the other side portions are rotatably supported by the middle shell, the opening portion of the wide range can be opened and closed while the areas of the shutter members are being decreased. Thus, the opening and closing efficiency of the opening portion can be improved and the whole of the disk cartridge can be made compact and thin.

According to the disk cartridge ~~as claimed in claim 12~~ of the present invention, since the disk cartridge has the arrangement in which the pair of guide grooves are provided on one of the pair of shutter members and the cartridge housing and the pair of operation convex portions are provided on the other so that the guide grooves may be moved along the operation convex portions based on the rotation of the middle shell, the pair of shutter members are opened and

closed by the rotation of the middle shell to thereby open and close the opening portion and the pair of shutter members can be rotated smoothly and reliably.

According to the disk cartridge ~~as claimed in claim 13~~ of the present invention, since the disk cartridge has the arrangement in which the opening portion is extended through the central portion of the cartridge housing to the diametrical direction of the disk-like recording medium, the two head portions can be inserted into and ejected from the opening portion simultaneously so that the two head portions are faced into the opening portion simultaneously and two operations (e.g., writing and reading of an information signal, writing or reading of an information signal at two places at the same time, etc.) can be carried out simultaneously. There can be achieved the effect that the useful disk cartridge can be provided.

Having described preferred embodiments of the present invention with reference to the accompanying drawings, it is to be understood that the present invention is not limited to the above-mentioned embodiments and that various changes and modifications can be effected therein by one skilled in the art without departing from the spirit or scope of the present invention as defined in the appended claims.